REMARKS

Upon entry of this response and amendment, claims 21-34 are currently pending in this application. Claim 21 is an independent claim drawn to a hybrid ultra reliable power generating system, with claims 22-27 depending therefrom. Claims 28, 32 and 33 are independent claims drawn to a method of generating continuous power using a hybrid ultra reliable power generating system, with claims 29-31 and 34 depending from claim 28. The independent claims have been amended to indicate that the secondary power unit produces only approximately 5-15% of the electric power that is produced by the primary power unit. Accordingly, Applicant submits that no new matter within the meaning of 35 U.S.C. 132 is introduced by the claim amendments.

Claims 21-24, 27-31, and 34 stand rejected as being anticipated by Bronicki (U.S. Patent No. 4,104,535); and, claims 25-26 and 32-33 stand rejected as being obvious over Bronicki (U.S. Patent No. 4,104,535).

The following remarks are made to differentiate the presently claimed invention over the cited references, and are made in anticipation that they will place the application in condition for allowance. Early recognition of allowance of the application is earnestly requested.

1. Rejection of Claims 21-24, 27-31 and 34

Under 35 U.S.C. 102(b)

Claims 21-24, 27-31 and 34 stand rejected under 35 U.S.C. 102(b) as being anticipated by Bronicki (U.S. Patent No. 4,104,535, the '535 patent) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and respectfully requests reconsideration and withdrawal thereof.

To establish an anticipation rejection, every claimed element must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *See also*, MPEP § 2131. Applicant respectfully submits that the Examiner has not met this burden.

Independent claim 21 is drawn to a hybrid ultra reliable power generating system comprising: a) a primary power unit producing electric power that is supplied to a load; and b) a secondary power unit in the form of a closed cycle vapor turbine (CCVT) system which is heated by the rejected heat of the primary power unit and produces electric power that is supplied to a load, wherein working fluid in the vaporizer of the (CCVT) is heated by the heat rejected by the primary power unit, the improvement of said power generating system being that said secondary power unit is capable of producing only approximately 5 to 15% of the electric power that is produced

by the primary power unit. Likewise, independent claim 28 is directed to the method equivalent of claim 21 and contains the same features therein, including the feature that the secondary power unit produces only approximately 5-15% of the electric power produced by the primary power unit.

As can be seen above, independent claims 21 and 28 require that the secondary unit is heated by the rejected heat from the primary power unit and is capable of producing only approximately 5-15% of the electric power that is produced by the primary power unit. Applicant respectfully submits that the '535 patent fails to disclose this feature, and therefore does not anticipate the claims.

The '535 patent discloses a hybrid power system comprising a pair of energy converters operating on a closed Rankine cycle. Each energy converter is capable of supplying 100% of the electrical load for the system. In normal operation of the '535 patent, each of the converters or power units furnishes half (i.e. 50%) the electrical load (see column 5, lines 50-51 of the cited US '535 reference). In addition, the secondary unit is capable of producing 100% of the power output of the primary power unit (again, Applicants direct the Examiner's attention to column 6, lines 39-48, particularly lines 39-44 of the '535 patent, where it states "[s]hould the primary converter fail, ... open valve 17-2 to a setting that will provide vapor generator 13-2 with sufficient heat to enable turbo-generator 15-2 to supply the entire electrical

load." (emphasis added)).

Furthermore, this difference is emphasized when the primary power unit is not operating. When the primary unit is idle, in the prior art system, the secondary power unit or converter will now produce 100% of the power output of the primary power unit or load. In the presently claimed subject matter, on the other hand, the secondary power unit will only produce 5-15% of power output of the primary power unit. This reduced power level from the second unit is sufficient for applications of the present inventive subject matter, e.g. providing power to a load for supplying the basic or minimal power requirements of the load. In the present application, a power output size of 5-15% from the second unit is advantageous since the secondary power unit will be cheaper to manufacture as well as operate at a higher efficiency level for the same equivalent power output level than the secondary power unit or converter of the cited prior art power system.

Therefore, Applicant respectfully submits that the '535 patent is silent with respect to the secondary unit being heated by the rejected heat from the primary power unit and being capable of producing only approximately 5-15% of the electric power that is produced by the primary power unit. The '535 patent discusses the presence of a second unit of the size of the first unit, but nowhere does the '535 patent disclose a second unit capable of providing only approximately 5-15% of the electric power produced by the primary power unit. Thus, Applicant submits that the '535

patent fails to disclose all of the claimed limitations from independent claims 21 and 28, and those claims that depend therefrom.

Accordingly, Applicant respectfully submits that the '535 patent does not anticipate the claims. Applicant respectfully requests reconsideration and withdrawal of the rejection.

2. Rejection of Claims 4-10, 19 and 25-26 Under 35 U.S.C. 103(a)

Claims 25-26 and 32-33 stand rejected under 35 U.S.C. 103(a) as being obvious over Bronicki (U.S. Patent No. 4,410,535, the '535 patent) for the reasons stated in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

The reference of record, the '535 patent, does not teach or suggest applicants' inventive subject matter as a whole, as recited in the amended claims. Further, there is no teaching or suggestion in this reference which would lead the ordinary skilled artisan to modify the reference to derive the subject matter as defined in the amended claims.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under § 103 by (1) determining the scope and content of the prior art;

(2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of nonobviousness.

As is discussed above with respect to the anticipation rejection, the arguments of which are hereby incorporated, the '535 patent fails to disclose each of the elements of claim 21, from which rejected claims 25 and 26, respectively, depend. Thus, Applicant submits that the '535 patent also fails to teach and disclose, and render obvious, the elements claims 25 and 26, which add further features to claim 21.

As indicated previously, independent claim 21 is drawn to a hybrid ultra reliable power generating system comprising: a) a primary power unit producing electric power that is supplied to a load; and b) a secondary power unit in the form of a closed cycle vapor turbine (CCVT) system which is heated by the rejected heat of the primary power unit and produces electric power that is supplied to a load, wherein working fluid in the vaporizer of the (CCVT) is heated by the heat rejected by the primary power unit, the improvement of said power generating system being that said secondary power unit is capable of producing only approximately 5 to 15% of the electric power that is produced by the primary power unit. As can be seen, the independent claim requires that the secondary unit is heated by the rejected heat from the primary power unit and is capable of producing only approximately 5-15% of

the electric power that is produced by the primary power unit. Furthermore, upon entry of this response and amendment, independent claims 32 and 33 also contain the feature that the secondary unit produces only approximately 5-15% of the electric output of the primary power unit. Applicant respectfully submits that the '535 patent fails to disclose these features, and there is no motivation or teaching within the reference to modify it to attempt achieving the presently claimed subject matter.

To reiterate from the arguments set forth above with respect to the anticipation rejection, the '535 patent discloses a hybrid power system comprising a pair of energy converters operating on a closed Rankine cycle. Each energy converter is capable of supplying 100% of the electrical load for the system. In normal operation of the '535 patent, each of the converters or power units furnishes half (i.e. 50%) the electrical load (see column 5, lines 50-51 of the cited US '535 reference). In addition, the secondary unit is capable of producing 100% of the power output of the primary power unit (see column 6, lines 39-48, particularly lines 39-44 of the '535 patent, where it states "[s]hould the primary converter fail, ... open valve 17-2 to a setting that will provide vapor generator 13-2 with sufficient heat to enable turbo-generator 15-2 to supply the entire electrical load." (emphasis added)).

Furthermore, this difference is emphasized when the primary power unit is not operating. When the primary unit is idle, in the prior art system, the secondary power unit or converter will now

produce 100% of the power output of the primary power unit or load. In the presently claimed subject matter, on the other hand, the secondary power unit will only produce 5-15% of power output of the primary power unit. This reduced power level from the second unit is sufficient for applications of the present inventive subject matter, e.g. providing power to a load for supplying the basic or minimal power requirements of the load. In the present application, a power output size of 5-15% from the second unit is advantageous since the secondary power unit will be cheaper to manufacture as well as operate at a higher efficiency level for the same equivalent power output level than the secondary power unit or converter of the cited prior art power system.

Additionally, the present inventive subject matter, when taken as a whole, calls for the use of a high temperature fuel cell as the primary power unit. There is no motivation within the '535 patent to use high temperature fuel cells since the two energy converters within the '535 patent are each capable of supplying 100% of the power. In other words, it would be unnecessary to include a high temperature fuel cell in the power systems of the '535 patent since both converters are capable of supplying the full electrical load.

The Examiner cites the Van Dine reference as teaching the concept of using molten carbonate fuel cells as the primary converter. However, Applicant submits that there is no motivation or teaching in either reference to combine them in an effort to

achieve the presently claimed subject matter. And, assuming *arguendo* that the references were combined, such a combination would still lack the feature that the second power converter is capable of producing only approximately 5-15% of the electric power of the primary power unit. Thus, the combination of references would still not teach the presently claimed invention.

Therefore, Applicant respectfully submits that the Examiner has failed to make a *prima facie* case of obviousness since the reference (and combination of references) fails to teach each of the claimed features. In addition, there is no motivation within the reference to modify it in an attempt to achieve the presently claimed invention.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims as being obvious over '535 patent.

CONCLUSION

In view of the foregoing, applicants respectfully request the Examiner to reconsider and withdraw the all pending rejections, and to allow all of the claims pending in this application.

If the Examiner has any questions or comments regarding this matter, he is welcomed to contact the undersigned attorney at the below-listed number and address.

Respectfully submitted,

NATH & ASSOCIATES

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